RDPR

Rapid Deployment Repeater

Owner's Manual

P/N 7001-30982-100 REV. 11-08 temp

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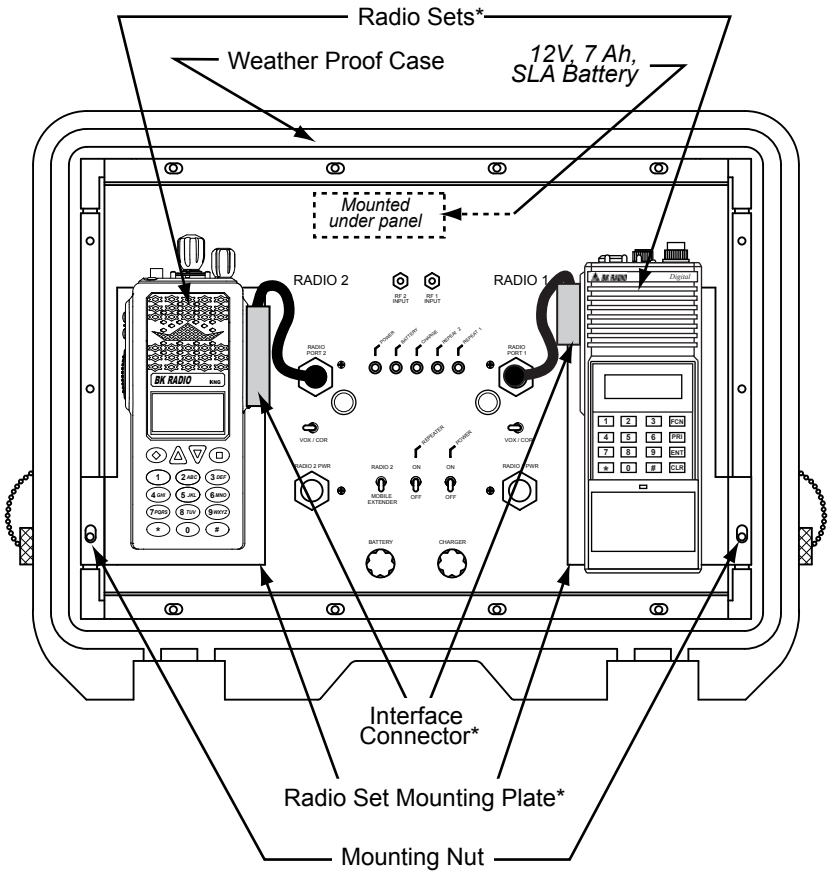
INTRODUCTION

This manual contains information concerning the operation procedures for the BK Radio Rapid Deployment Portable Repeater (RDPR). The RDPR has been designed to meet the tough requirements of today's communications environment. The portability and ease of use allows it to be easily deployed in the most demanding environments. Please take a moment to read the information in this manual so you can get optimum performance from your new Portable Repeater. Also, please refer to the Owner's Manual of the respective radios that are configured in your portable repeater for safety and operation information.

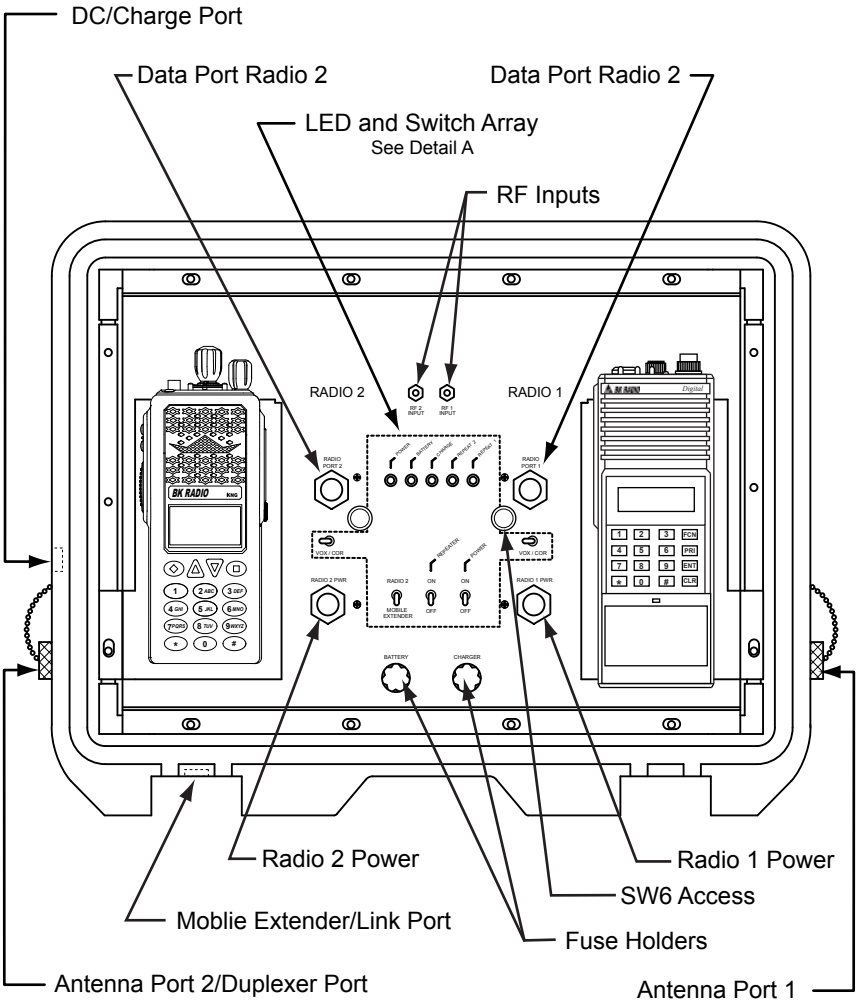
BASIC CONFIGURATION

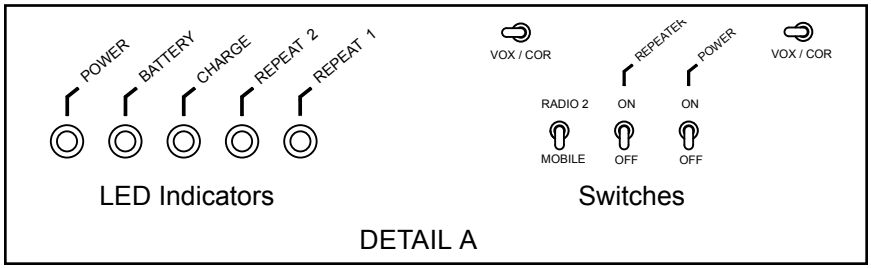


*Interface connectors, and mounting plates are dependant radio set type.
Contact RELM Wireless for availble radio types.

OPTIONAL ACCESSORIES	
MECRDPR	Mobile Extender Cable
LINKCRDPR	Link Cable
VARDPR	Charging Adaptor for Vehicle
SP20WRDPR	20W Solar Panel
SP20WM	Solar Panel Mount and hardware.
WCRDPR	Wall Charger Adaptor
MWV1360S	Mobile Antenna, 136-174MHz
MBS	Antenna Base Adaptor
TAM8	Tripod (Solar Panel & Antenna Mount)
LZA3015	Internal Duplexer, Factory Installed (VHF)
LZA3017	Internal Duplexer, Factory Installed (UHF)
CABANTRDPR	Antenna Coax Cable

CONTROLS AND CONNECTIONS





LED INDICATORS	
Power	**With Detect On** (Refer to the Mode Settings, page 11) Solid - Ready for operation. Blinking - Not ready for operation. **With Detect OFF** (Refer to the Mode Settings, page 11) Solid - Master Power switch is on.
Battery	Indicates battery is near depletion and in need of charge. Depending on activity, the battery will last approximately one hour after illumination.
Charge	Indicates the internal battery is charging,
Repeat 1	When lit, Radio 2 (left side) is repeating the received signal from Radio 1 (right side).
Repeat 2	When lit, Radio 1 (right side) is repeating the received signal from Radio 2 (left side).
Repeat 1 and Repeat 2	When lit, Radio 1 and Radio 2 are repeating the received signal from the radio connected to the external radio port.

SWITCHES	
Power	Master switch to power-up the RDPR.
Repeater	Switches power to the “Radio 1 PWR” and “Radio 2 PWR” ports to enable/disable repeater function.
Radio 2/Mobile	Switches Radio 2 off when using the external radio port.
VOX/COR	Switches between voice/noise activated (VOX) or carrier activated (COR) repeat function.
SW6	Refer to the Mode Settings on page 11

BASIC OPERATION

If needed, program the installed radio sets. The “Power”, “Repeater”, and “Radio 2” switches should be on to supply power to the radio sets being programmed.
See the specific radio’s programming manual for programming details.

1. Switch the “Power”, “Repeater”, and “Radio 2” switch to the “ON” position.
2. Adjust the squelch on receiving radios for desired signal level.
3. Adjust the volume control knob of the receiving radio to the 10 o’clock – 11 o’clock position. This will set the VOX sensitivity as well the transmit deviation level. Do not set volume knob past the 12 o’clock position. Use a service monitor or compatible transmitter and receiver to test the repeat function.

CHARGING THE RDPR

WARNING

- Do not charge the RDPR if it is exposed to temperatures less than -20°C (4°F) or temperatures greater than +50°C (+122°F).
- When the battery is not being charged, make sure the master power switch is in the “OFF” position.

NOTE: The Master Power Switch must be on during battery charging.

When the Battery LED is illuminated, the RDPR internal battery is in need of charging.

When charging the RDPR, the internal charging circuit monitors the battery voltage and detects a full charged condition. When the battery is fully charged, the amber Battery LED and red Charge LED will not be lit.

When the battery reaches sufficient operating voltage, approximately 13 Volts, the Battery LED will turn off. The Charge LED remains lit until the battery is fully charged.

Battery Condition Indicators

	Charge Needed	Battery Charging	Charged to Usable Level	Fully Charged
Battery LED	ON	ON	OFF	OFF
Charge LED	OFF	ON	ON	OFF

The RDPR can be charged by connecting the RDPR to the DC wall adaptor (WCRDPR), Solar Panel (SP20WRDPR), or Vehicle Adaptor (VARDPR).

- **Wall Charger Adaptor** - Connect the WCRDPR AC plug into the AC source and connect the DC plug into the DC/Charge Port of the RDPR. The WCRDPR is intended for indoor use only.

- **Solar Panel** – Locate and position the panel so it gets the maximum exposure to sunlight throughout the day. Connect the DC plug into the DC/Charge Port of the RDPR.

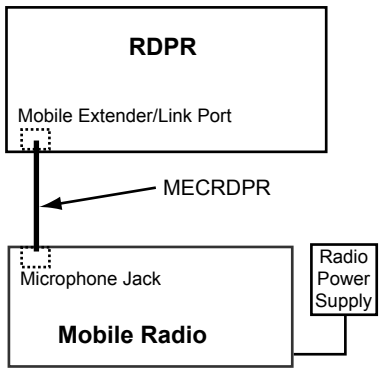
- **Vehicle Adaptor** – Connect the adaptor plug into the vehicle's DC accessory jack. Connect the DC plug into the DC/Charge Port of the RDPR.

NOTE: To prolong the life of the internal battery, it is recommended to store the RDPR with the battery fully charged. If the RDPR is not in service and not being charged, make sure the master power switch is in the "OFF" position.

MOBILE EXTENDER (MECRDPR)

The Mobile Extender Cable (MECRDPR) allows the use a BK Radio mobile as the transmitting unit to take advantage of the mobile radio's higher RF power output.

1. Connect the modular plug of the MECRDPR into the mobile radio's microphone jack.
2. Connect the other end to the Mobile Extender/Link Port of the RDPR.
3. Switch the RDPR and mobile radio power on.
4. If the primary transmitting radio within the RDPR (Radio 2) is not needed, set the "Radio 2" switch to the "OFF" position.



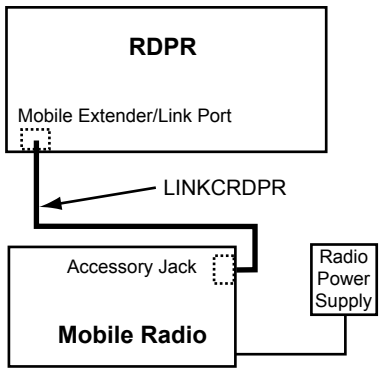
LINKING (LINKCRDPR)

The RDPR can be used for Linking using the LINKCRDPR cable with a BK mobile or GBH/DBH base station, the RDPR can be used for Linking.

When a valid receive signal is received on the primary receiver (Radio 1), the primary transmitter (Radio 2) and the mobile/base station will transmit the received audio.

When a valid receive signal is received on the mobile/base station, the primary transmitter (Radio 2) will be transmitting the received signal.

1. Connect the DB15 connector of the MECRDPR into the accessory port at the rear of the mobile or base station and connect the other end to the Mobile Extender/Link Port of the RDPR.
2. Switch the RDPR main power and repeater power on.
3. Switch the mobile or base station power on.



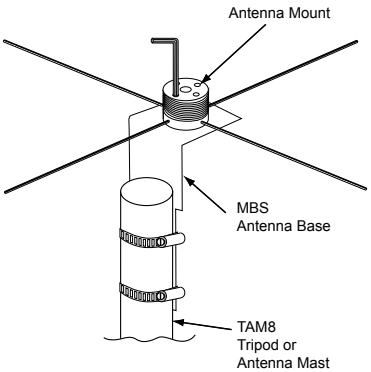
Refer to the Mode Settings (page 11) for linking options.

ANTENNA INSTALLATION (MWV1360S)

CAUTION

- Make sure there are no overhead power lines that can potentially come in contact with the antenna.

1. Loosen tripod pole lock and fully extend the legs of the tripod.
2. Position the Antenna Base (MBS) with the two hose clamps at the top of the TAM 8 pole or Antenna Mast. Make sure that the RF connector is positioned away from the pole or mast.
3. Tighten the hose clamps.
4. Insert the 4 radials into the holes located on the antenna base. Using the supplied hex wrench, tighten the set screw for each radial.
5. Screw the antenna to the top of antenna mount.
6. Connect the PL259 connector of the coax cable to the bottom connector of the antenna base.
7. Connect the “N” connector to the approproate RDPR Antenna Port.



DUPLEXER OPTION (LZA3015 OR LZA3017)

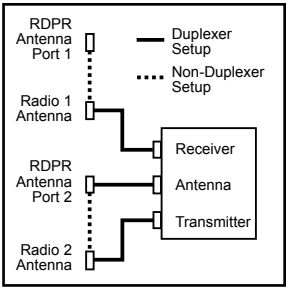
If the RDPR is used as a fixed frequency repeater and one antenna is desired, duplexer option LZA3015 (VHF) or LZA3017 (UHF) can be ordered. (Factory install ONLY.)

If a duplexer is installed the antenna is connected to Antenna Port 2. If no duplexer is installed, the antenna ports on each side of the case are to be used.

To disconnect the duplexer and use the two antenna ports, perform the following steps:

1. Remove the two radio mounting plates.
2. Remove the eight hex screws of the top panel.

3. Carefully tilt the top panel from the front to gain access to the duplexer.
4. Remove the antenna cable from the duplexer and from Antenna Port 2.
5. Remove the “RX” and “TX” antenna connection from the duplexer and re-connect to the respective RDPR antenna ports.



SOLAR PANEL INSTALLATION (SP20WRDPR and SP20WM)

A Solar Panel can be mounted on the TAM8 tripod or on a 2’ to 3” diameter pole.

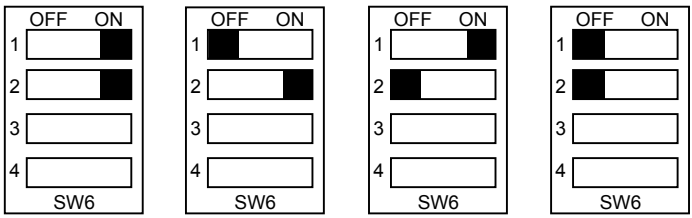
1. Refer to the included instruction sheet to attach the bracket and solar panel to the pole. Position the solar panel mount arm approximately 20°- 30°down from the horizon and tighten the bolts.
2. Position the panel for maximum exposure to sunlight throughout the day.

MODE SETTINGS

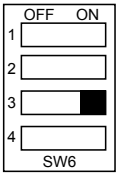
NOTE: Note to access the DIP SW6, remove the plastic cap plug as shown in the diagram on page 5. Use a pencil or a small screw driver to turn on or OFF the switch.

HANG TIME (S1 and S2)

Switches 1 and 2 are used to set the repeater hang time as follows:

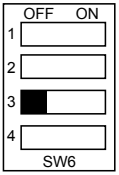


RADIO DETECT (S3)



S3 - “ON”.

If any or all of the radios are turned off or not plugged in the power LED will flash and the repeater function will be inoperable.



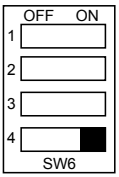
S3 - “OFF”.

The repeater function is operable even if one of the radios is off or unplugged.

NOTE: This setting is used when only one of the RDPR internal Radio Sets is being used in conjunction with an external radio.

LINKING CONFIGURATIONS (S4)

In-Band Linked Repeater



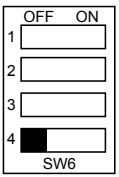
When an external radio is attached via the LINKCRDPR link cable it will transmit whenever Radio 1 or Radio 2 receives a signal.

Radio 2 transmits whenever a signal is received by the external radio.

Radio 1 acts as receive only.

S4 “ON”.		Transmitting Radio		
		Radio 1	**Radio 2**	**External**
Receiving Radio	**Radio 1**		X	X
	Radio 2			X
	External		X	

Cross-Band Linked Repeater



When an external radio is attached via the LINKCRDPR link cable, whenever a signal is received by one radio set, the other two sets will transmit.

NOTE: When using this option the hang time must be set to zero seconds. (Refer to Hang Time Settings, page 11)

S4 “OFF”.		Transmitting Radio		
		Radio 1	**Radio 2**	**External**
Receiving Radio	**Radio 1**		X	X
	Radio 2	X		X
	External	X	X	

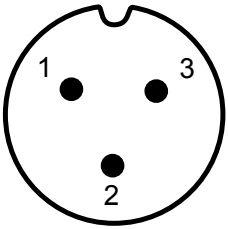
SERVICE

If you need service, contact your local BK Radio dealer equipped to service your radio. If you find it impractical to have service performed by your local dealer, contact BK Radio at the address below:

RELM Wireless Corporation
ATTN: Customer Service
7100 Technology Drive
West Melbourne, FL 32904
(800) 422-6281

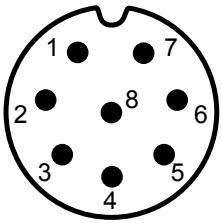
QUICK REFERENCE

Charger Connector
PN 2105-20035-708



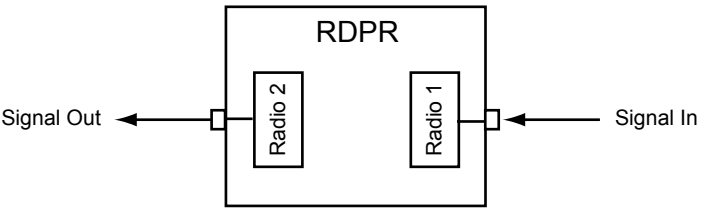
1 - 18VDC IN
2 - NC
3 - GND

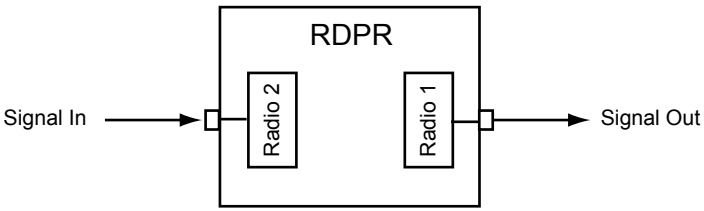
External Radio Connector
PN 2105-20035-710



2 - PTT
3 - GND
4 - Mic Hi

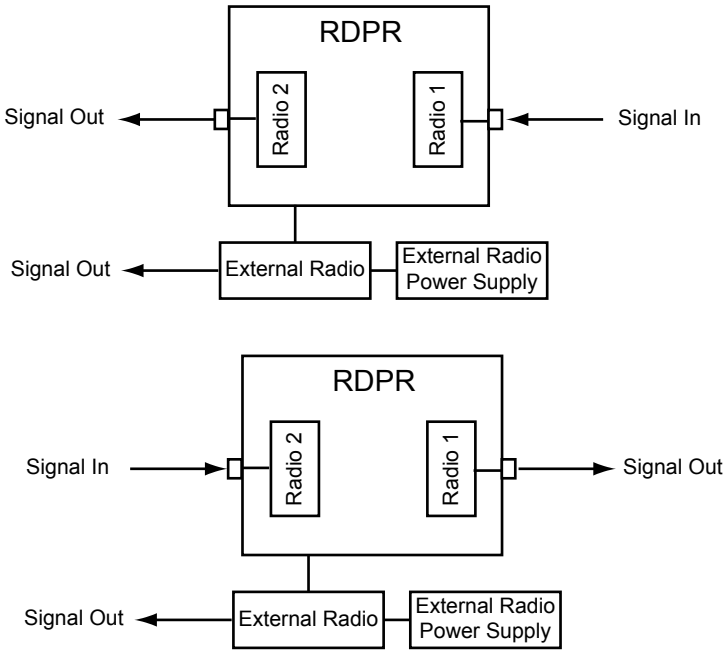
Basic Configuration



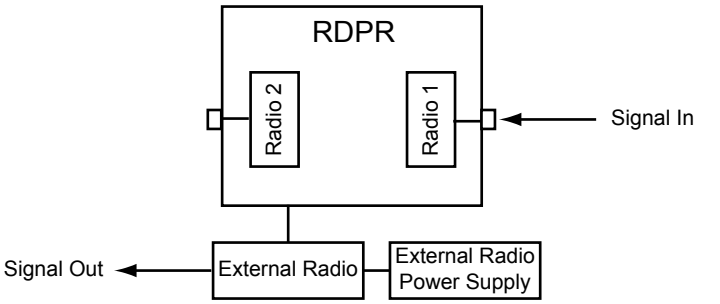


External Radio Configuration

With Radio 2 Switch ON

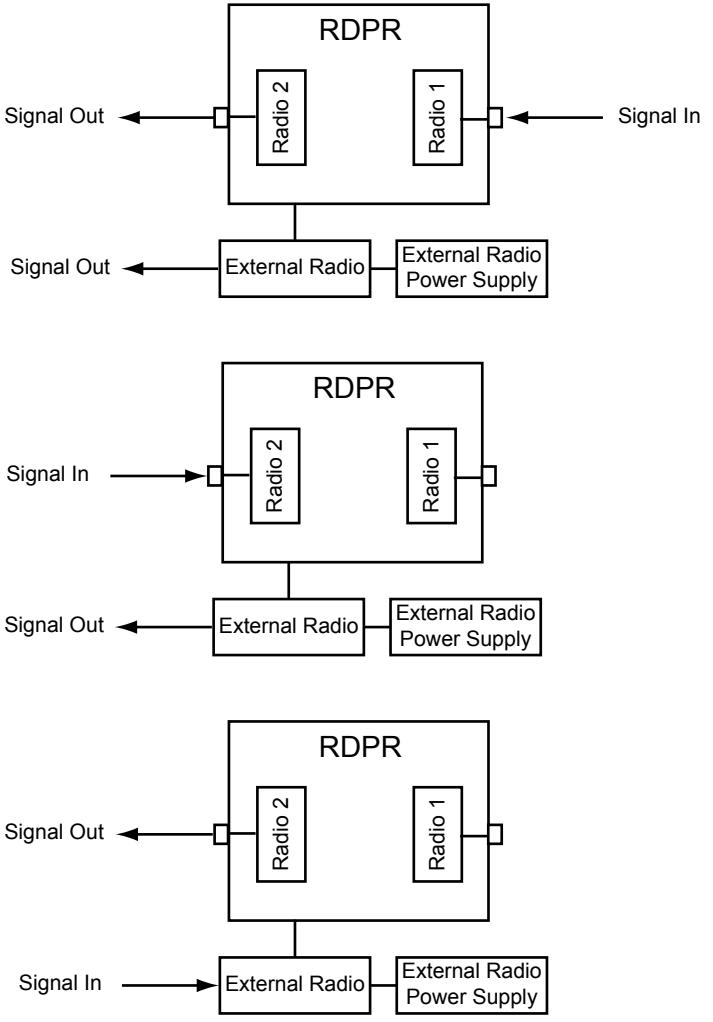


With Radio 2 Switch OFF



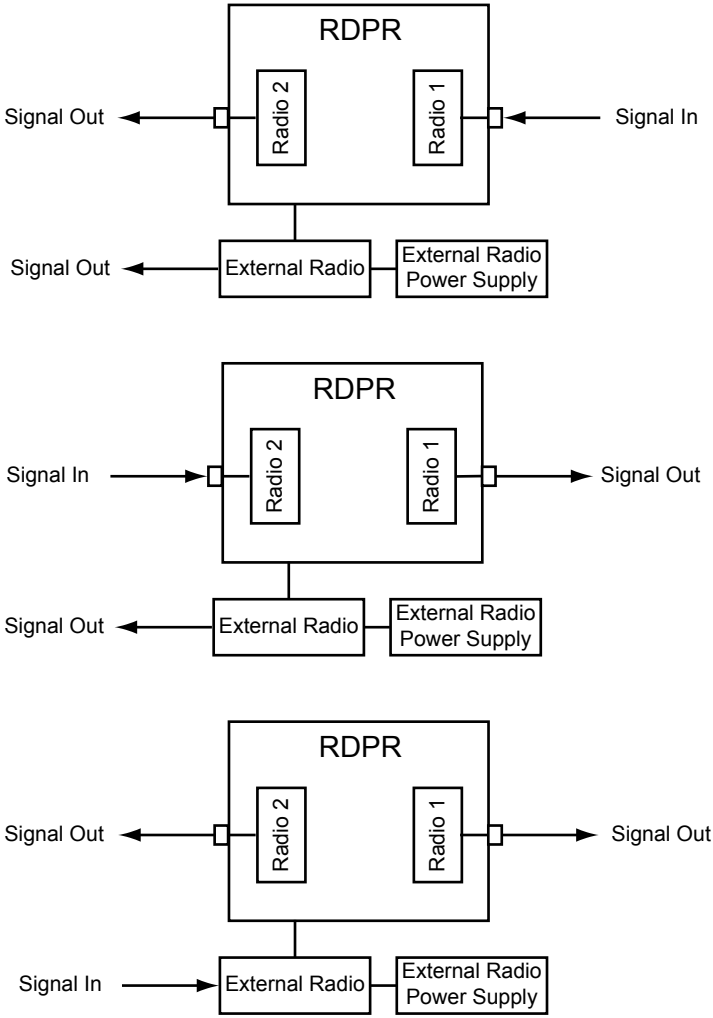
In-Band Linking Configuration

S4 On



Cross-Band Linking Configuration

S4 Off



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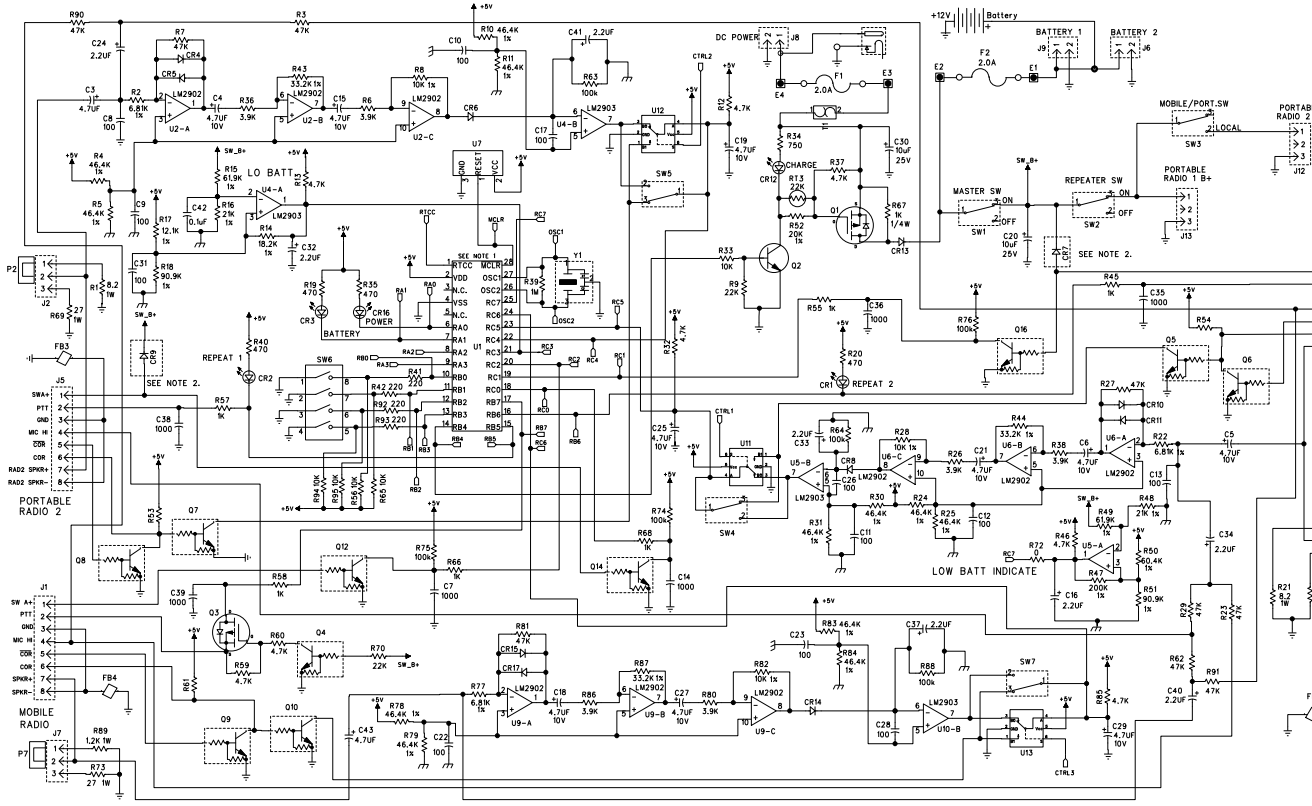

NOTES

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